

Transcatheter Aortic Valve Replacement: What's in a Name?

In the 2012 expert consensus document on transcatheter aortic valve replacement (TAVR), the inexact name *TAVR* appears in nearly every paragraph (1). But, what's in a name? According to William Shakespeare, "That which we call a rose; by any other name would still smell as sweet" (*Romeo and Juliette*, c. 1597). We therefore humbly suggest reversion to the archaic name transcatheter aortic valve implantation (TAVI). TAVR has been characterized as a disruptive technology destined to change the landscape of valvular heart disease therapy (2). A disruptive technology refers to an innovation that ultimately displaces a proven technology already on the market, in this case, surgical valve replacement. But how can we accept such a bold declaration when the designation of the procedure is a confusing misnomer?

We increasingly see poor operative candidates with severe aortic stenosis in our multidisciplinary valve clinic. Our conversation commences by reviewing the glossy educational pamphlet for the Edwards Sapien Transcatheter Valve (Edwards Lifesciences LLC, Irvine, California). The title on the front cover, above the image of the loving elderly couple sitting on a park bench, reads "Transcatheter Aortic Valve Replacement." Invariably, the first question from an astute octogenarian is, "What happens to the old valve?" We gracefully explain that we blow up a balloon, smash the old valve to the side, then implant a new one within their existing annulus. Their reaction is often one of bewilderment. This confusion is well founded. Webster's dictionary defines *replace* as "to put something new in place of something else," and implies filling a place once occupied by something removed. One does not have a muffler replaced at the local auto shop and expect to find the old one still in place. Technically, we are performing valve displacement. However, a valve displacement doesn't sound like an advanced restorative therapy that marketing experts would embrace.

With commercial release of the Sapien valve on November 2, 2011, the TAVR misnomer was memorialized: "The U.S. FDA today approved the first artificial heart valve that can replace an aortic heart valve damaged by senile aortic valve stenosis without open-heart surgery" (3). Suddenly, the blogosphere described "The Evolving TAVR Market" at NASDAQ.com, while the cardiology community further cemented the acronym in catheterization laboratories everywhere.

When did this conspicuous misuse of the English language first occur? Results of the randomized PARTNER (Placement of Aortic Transcatheter Valve) trial were published in a 2010 article entitled "Transcatheter Aortic-Valve Implantation for Aortic Stenosis in Patients Who Cannot Undergo Surgery" (4). TAVI was the acronym used, and *implantation* seemed an appropriate description of the technology. By 2011, with publication of the high-risk cohort of the PARTNER trial, the title somehow transformed to "Transcatheter Versus Surgical Aortic-Valve Replacement in High-Risk Patients" (5).

Why does this matter? We contend that this is not merely semantic, because an accurate name for high-risk expensive procedures is pertinent to healthcare stake holders. It facilitates uniform communication among researchers, payers, regulators, clinicians, and, most importantly, patients. In a clinical landscape

cluttered with jargon, we should strive toward verbal precision. Politicians, poets, and pollsters know that words matter. Powerful words launch social movements and even cultural revolutions. The right catch phrase also can launch a new product. However, there should be truth in advertising, and our regulatory bodies should be critical in determining if advertising is misleading or fails to disclose all the relevant facts (6).

So what's in a name? If TAVR is to alter the course of cardiovascular disease care, then we believe this rose would smell sweeter with a more accurate name. We suggest the original designation of TAVI be the acronym of choice. This title harkens back to Rudyard Kipling's classic novel where the valiant mongoose, Rikki-Tikki-Tavi, confronts a dreaded cobra plotting the murder of his adoptive human family. Senile critical aortic stenosis in poor operative candidates just may be the cardiologist's most poisonous snake. To combat such a foe, it is fitting that TAVI be anointed our protagonist.

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Coronary Computed Tomography Angiography After Stress Testing

In the ACIC (Advanced Cardiovascular Imaging Consortium) registry, Chinnaiyan et al. (1) evaluated the correlation between stress test results and extent of coronary artery disease (CAD) on coronary computed tomography angiography (CCTA) and compared the diagnostic performance of both noninvasive modalities in patients undergoing invasive coronary angiograms. The authors should be commended for their attempts to answer a pertinent debate on appropriate use of various diagnostic modalities in

